

What is claimed is:

1. An image forming method, wherein a photosensitive material containing a photosensitive silver halide and an organic silver salt and capable of forming an image, which corresponds to a latent image having been recorded on the photosensitive material through an image-wise exposure operation, when the photosensitive material is heated, is utilized, the method comprising the steps of:

i) heating the photosensitive material, on which the latent image has been recorded, the image, which corresponds to the latent image having been recorded on the photosensitive material, being thereby formed on the photosensitive material,

ii) performing an image readout for reading out the image from the heat-developed photosensitive material, on which the image has been formed with the heating, an image signal, which represents the image, being thereby obtained, and

iii) performing predetermined image processing on the image signal, a digital image signal, from which the image is capable of being reproduced, being thereby formed.

2. A method as defined in Claim 1 wherein the heating of the photosensitive material is performed at a temperature ranging from 100°C to 200°C and for a period ranging from 5 seconds to 60 seconds.

3. A method as defined in Claim 1 wherein the photosensitive material is a heat-developable photosensitive color photographic material comprising:

5 a support, and
at least three kinds of photosensitive layers,
which are overlaid on the support, each of the photosensitive
layers containing at least photosensitive silver halide grains,
organic silver salt grains, a binder, a color developing agent,
and a dye-donating coupler, each of the three kinds of
photosensitive layers being sensitive to different wavelength
regions, and capable of forming dyes of different hues from an
oxidation product of the color developing agent and the
dye-donating couplers, and

10 a color image of at least three colors is formed on
the heat-developed photosensitive color photographic material.

15 4. A method as defined in Claim 1, 2, or 3 wherein
the photosensitive silver halide contains tabular photosensitive
silver halide grains, which have an aspect ratio falling within
the range between 4 and 100, in a proportion of at least 50% by
volume.

20 5. A method as defined in Claim 1, 2, or 3 wherein
the organic silver salt is a silver salt of a compound containing
an imino group.

6. A method as defined in Claim 5 wherein the organic
silver salt is a silver salt of a derivative of benzotriazole.

7. An image forming system for use in an image forming
method as defined in Claim 1, the system comprising:

25 a development processing section provided with heating
means for heating the photosensitive material, on which the latent

image has been recorded, in order to form the image, which corresponds to the latent image, on the heat-developed photosensitive material.

8. A system as defined in Claim 7 wherein the heating means performs the heating of the photosensitive material at a temperature ranging from 100°C to 200°C and for a period ranging from 5 seconds to 60 seconds.

9. A system as defined in Claim 7 wherein the photosensitive material is a heat-developable photosensitive color photographic material comprising:

15 a support, and
at least three kinds of photosensitive layers, which are overlaid on the support, each of the photosensitive layers containing at least photosensitive silver halide grains, organic silver salt grains, a binder, a color developing agent, and a dye-donating coupler, each of the three kinds of photosensitive layers being sensitive to different wavelength regions, and capable of forming dyes of different hues from an oxidation product of the color developing agent and the dye-donating couplers, and

20 the heating means forms a color image of at least three colors on the heat-developed photosensitive color photographic material.

10. A system as defined in Claim 7, 8, or 9 wherein the photosensitive silver halide contains tabular photosensitive silver halide grains, which have an aspect ratio falling within

the range between 4 and 100, in a proportion of at least 50% by volume.

11. A system as defined in Claim 7, 8, or 9 wherein the organic silver salt is a silver salt of a compound containing 5 an imino group.

12. A system as defined in Claim 11 wherein the organic silver salt is a silver salt of a derivative of benzotriazole.

13. A system as defined in Claim 7, 8, or 9 wherein the development processing section is provided with pre-development temperature and moisture content adjusting means for adjusting a temperature and a moisture content of the photosensitive material at values falling within predetermined ranges immediately before the photosensitive material is heated by the heating means.

14. A system as defined in Claim 7, 8, or 9 wherein the development processing section is provided with post-development temperature and moisture content adjusting means for adjusting a temperature and a moisture content of the heat-developed photosensitive material at values falling within predetermined ranges immediately after the photosensitive material is heated by the heating means.

15. A system as defined in Claim 7, 8, or 9 wherein the system further comprises:

image read-out means for performing an image readout for reading out the image from the heat-developed photosensitive material, on which the image has been formed with development

processing performed in the development processing section, in order to obtain an image signal, which represents the image, and image processing means for performing predetermined image processing on the image signal in order to form a digital image signal, from which the image is capable of being reproduced.

16. A system as defined in Claim 15 wherein the system further comprises pre-readout temperature and moisture content adjusting means for adjusting a temperature and a moisture content of the heat-developed photosensitive material at values falling within predetermined ranges immediately before the image readout from the heat-developed photosensitive material is performed by the image read-out means and/or while the image readout from the heat-developed photosensitive material is being performed by the image read-out means.

17. A system as defined in Claim 15 wherein the system further comprises compensation processing means for compensating for a contribution of a print-out effect, which occurs in accordance with the undeveloped photosensitive silver halide and developed silver remaining on the heat-developed photosensitive material, to the image signal in cases where an image re-readout is performed by the image read-out means.

18. A system as defined in Claim 17 wherein the photosensitive material is provided with a reference region, to which a predetermined exposure quantity is given,

25 read-out conditions of the image read-out means and image processing conditions of the image processing means are

determined in accordance with image signal components, which correspond to the reference region and are obtained when information in the reference region is read out by the image read-out means,

5 in cases where the image re-readout is performed by the image read-out means, the image re-readout is performed by the image read-out means under the read-out conditions having thus been determined, the image signal being thereby obtained, and

10 the image processing is performed on the obtained image signal and by the image processing means under the image processing conditions having thus been determined.

15 19. A system as defined in Claim 17 wherein the system further comprises light quantity storage means for storing information, which represents cumulative light quantity of reading light irradiated to the heat-developed photosensitive material at the time of the image readout,

20 reference is made to print-out characteristics with respect to light intensities of reading light, which print-out characteristics have been set previously,

25 read-out conditions of the image read-out means and image processing conditions of the image processing means are determined in accordance with the light quantity, which has been stored in the light quantity storage means, and the print-out characteristics,

in cases where the image re-readout is performed by

the image read-out means, the image re-readout is performed by the image read-out means under the read-out conditions having thus been determined, the image signal being thereby obtained, and

5 the image processing is performed on the obtained image signal and by the image processing means under the image processing conditions having thus been determined.

20. A system as defined in Claim 15 wherein the system further comprises read-out condition setting means capable of selecting a spatial resolving power and an image density resolving power, with which the image is to be read out, respectively from a plurality of spatial resolving powers and a plurality of image density resolving powers, and setting the selected spatial resolving power and the selected image density resolving power for the image readout,

15 the image read-out means performs the image readout with the spatial resolving power and the image density resolving power, which have been set by the read-out condition setting means,

20 the system still further comprises image processing condition setting means capable of selecting image processing conditions, under which the image processing is to be performed on the image signal having been obtained from the image readout performed by the image read-out means with the spatial resolving power and the image density resolving power having been set by 25 the read-out condition setting means, from a plurality of image processing conditions, and setting the selected image processing

conditions for the image processing, and

the image processing means performs the image processing on the image signal and under the image processing conditions, which have been set by the image processing condition setting means.

21. A system as defined in Claim 20 wherein the image read-out means performs the image readout with a standard spatial resolving power and a standard image density resolving power, which have been set previously by the read-out condition setting means,

the image processing means performs standard image processing, which has been set previously by the image processing condition setting means, on an image signal, which has been obtained from the image readout performed with the standard spatial resolving power and the standard image density resolving power, in order to form a digital image signal, which represents a standard image,

the image read-out means performs the image readout with a high spatial resolving power and a high image density resolving power, which have been set by the read-out condition setting means, and

the image processing means performs simple image processing, which is simpler than the standard image processing having been set previously by the image processing condition setting means, on an image signal, which has been obtained from the image readout performed with the high spatial resolving power

and the high image density resolving power, in order to form a digital image signal, which represents an original image,
5 whereby at least two kinds of the digital image signals, which represent the standard image and the original image, are formed.

22. A system as defined in Claim 20 wherein the image read-out means performs the image readout with a high spatial resolving power and a high image density resolving power, which have been set by the read-out condition setting means,

15 the image processing means performs simple image processing, which is simpler than standard image processing having been set previously by the image processing condition setting means, on an image signal, which has been obtained from the image readout performed with the high spatial resolving power and the high image density resolving power, in order to form a digital image signal, which represents an original image, and

20 the image processing means performs re-sizing and image density resolving power transform on the digital image signal, which represents the original image, and in accordance with a standard spatial resolving power and a standard image density resolving power, which have been set previously, in order to form a digital image signal, which represents a standard image.

25 23. A system as defined in Claim 15 wherein the system further comprises:

identification code appending means for appending a heat-developed photosensitive material identification code for

identifying the heat-developed photosensitive material and an image identification code for identifying each of a plurality of images, which have been formed on the heat-developed photosensitive material, to each of digital image signals representing the plurality of the images, each of the digital image signals having been obtained from the predetermined image processing performed on one of image signals, which represent the plurality of the images and have been obtained with the image readout performed by the image read-out means, and

storage means for storing the digital image signals, which represent the plurality of the images, the heat-developed photosensitive material identification code, and the image identification codes, such that it may be clear which heat-developed photosensitive material identification code and which image identification code correspond to which digital image signal.

24. A system as defined in Claim 23 wherein the system further comprises image signal retrieving means for retrieving each of the digital image signals, which represent the plurality of the images, in accordance with the heat-developed photosensitive material identification code and the image identification code, and in accordance with input conditions specified from a client terminal device, which is connected with the storage means via a communication line, and

25 the image processing means again performs image processing on the digital image signal, which has been retrieved

by the image signal retrieving means, and in accordance with the input conditions.

25. A system as defined in Claim 7, 8, or 9 wherein the photosensitive material is provided with a patch, on which an image having a predetermined image density is capable of being formed, the patch being located at an area surrounding each of a plurality of images formed on the photosensitive material, and

the system further comprises development judging means for measuring the image density of the image having been formed on the patch after development processing, and making a judgment in accordance with the results of the measurement and as to whether the development processing has been or has not been performed correctly.

15 26. A system as defined in Claim 7, 8, or 9 wherein the photosensitive material is provided with a patch, on which a predetermined pattern image is capable of being formed, the patch being located at an area surrounding each of a plurality of images formed on the photosensitive material, and

the system further comprises development judging means for detecting an image density form having been formed on the patch after development processing, and making a judgment in accordance with the results of the detection and as to whether the development processing has been or has not been performed correctly.

20 25 27. A system as defined in Claim 7, 8, or 9 wherein the photosensitive material is provided with a patch, on which

an image having a predetermined image density is capable of being formed, the patch being located at an end area of the photosensitive material, and

5 the system further comprises development judging means for measuring the image density of the image having been formed on the patch after development processing, and making a judgment in accordance with the results of the measurement and as to whether the development processing has been or has not been performed correctly.

28. A system as defined in Claim 7, 8, or 9 wherein the photosensitive material is provided with a patch, on which a predetermined pattern image is capable of being formed, the patch being located at an end area of the photosensitive material, and

20 the system further comprises development judging means for detecting an image density form having been formed on the patch after development processing, and making a judgment in accordance with the results of the detection and as to whether the development processing has been or has not been performed correctly.

29. A system as defined in Claim 7, 8, or 9 wherein the photosensitive material is provided with a magnetic recording layer, on which information is recorded magnetically, and

25 the system further comprises magnetic recording information reading means for reading the information, which has been recorded on the magnetic recording layer, before development

processing is performed in the development processing section.

30. A system as defined in Claim 15 wherein the system further comprises at least one unit of printing means for outputting a print in accordance with the digital image signal.

5 31. A system as defined in Claim 30 wherein the information, which has been recorded on the magnetic recording layer, is at least one kind of information, which is among the information representing read-out conditions of the image read-out means, the information representing image processing conditions of the image processing means, and the information representing printing conditions of the printing means, and

15 the system executes at least one kind of operation, which is among the image readout performed by the image read-out means under the read-out conditions having been read by the magnetic recording information reading means, the image processing performed by the image processing means under the image processing conditions having been read by the magnetic recording information reading means, and the print outputting performed by the printing means under the printing conditions having been read by the magnetic recording information reading means.

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